October 2, 2002

MODIS sensor Working Group (MsWG) Summary

Attendance: Bill Barnes, Stuart Biggar, Vincent Chiang, Roger Drake, Bob Evans, Gene Feldman, Bruce Guenther, Shaida Johnston, Gerhard Meister, Chris Moeller, Vince Salomonson, Junqiang Sun, Gary Toller, Jack Xiong, Eric Vermote, Zhengming Wan, Joe Esposito

Scheduled Items

Item 1 Terra and Aqua MODIS Instrument Status

JX) The m1 calibration has been fairly smooth for both instruments.
Band 23, 24, and 32 gain changes were seen after spacecraft safe holds occurred which causes a b_1 discontinuity. Roger has pointed out that this was seen in TV2 and TV3. SBRS and MCST are looking into this issue (MSCN).
There seems to be no formatter change (A -> B) induced problems.

BB) The results of the change look good. The Bside formatter error rate is zero.

Item 2 LUTs Related Issues (Aqua and Terra)

JX) Terra LUTs have been delivered for collection 4.
The best Terra LUTs to date are being prepared for Miami testing.

Aqua LUTs are being delivered with $a_0 = 0$ for B33-B36.
This value of the coefficient works well (see plots) for both Terra and Aqua.
The SWIR OOB Xtalk correction has been determined using the same approach as was done for Terra. At the same time other SWIR analysis is being done by Wisconsin and MCST (see item 3). m_1 coefficients will include the SWIR correction.
Spacecraft safe hold causes changes to m1 therefore piecewise linear segments will be used instead of fitted LUTs.
For those TEB bands that are known to saturate during BB warm-up/cool down, fixed gains will be included in the LUTs for temperatures greater than the saturation temperature.

CM) The BB warm-up/cool down calibration should be trended to watch for a_0 and a_2 changes. (*MCST Action: Trend a_0 and a_2 for both Terra and Aqua.*)

BG) We are limited to looking at BB during calibrations. Is the entire scan line looked at during the Wisconsin analysis?

CM) I'm not clear about the AOI of the analysis scene.

JX) For a_0 there is no need to look at the AOI.

BG) I am uncomfortable about this and will come back to this at a later time.

Item 3 Wisconsin SWIR (B26) OOB Correction Results
MCST On-going Work for Aqua SWIR OOB Correction

CM) The Wisconsin data analysis is using varying scene temperature. The imagery shows anomalously bright pixels (low signals) in the night scene. Signals in TEB correlate with B26. Analysis of Aqua warm and cold scene data shows B20, 22, 23, and 25 have the best correlation with B26. For Terra data, B24 seem to be the best. We could select a better band than B28 but the correlation difference is small. Therefore, there seems to be no reason not to use B28. The analysis is summarized in the handout (attachment to original Email).

JX) MCST is doing something similar (analysis). MCST is looking at the B28 impact on B5, 6, and 7 using night and day data. We have thought B28 is the best choice for the SWIR OOB Xtalk correction and are looking closely at the data to see if other bands correlate. (*MCST Action: Analyze and compare results of SWIR OOB Xtalk for B5, 7, and 26 against B20, 23, 24, 25, and 28.*)

BG) Has anyone looked at full moon reflection off high cirrus clouds? (*MCST Action: compare at full moon and new moon data*)

EV) The tests should be done.

Around the Table

Participant: Bill Barnes – We will have a meeting on Thursday about updating of the MODIS web pages.

Participant: Bob Evans – Miami is working on the calibration.

JX) If MCST sends new LUTs can you look at them?

BE) Miami is very busy now but would get to it.

Participant: Stuart Biggar – There are some errors in the analysis results Kurt sent last week (9/14/02). The new results sent today are good. (*MCST Action: send July granule analyzed with the current LUT*). Kurt is redoing the Terra Aqua difference. Carol Brugge is getting a MISR to vicarious ratio greater than one.

JX) Terra and Aqua are greater than one, which is what we see.